

Date: Thu, 29 Apr 93 04:30:14 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #515
To: Info-Hams

Info-Hams Digest Thu, 29 Apr 93 Volume 93 : Issue 515

Today's Topics:

 AM Modulation Question
 Current handling capacity and Jones connectors...
 Differential equations and power. (2 msgs)
 no-code defense (2 msgs)
 PC CW software
 TS-50 Accessories

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 28 Apr 1993 23:26:05 GMT
From: sdd.hp.com!hpscit.sc.hp.com!rkarlqu@decwrl.dec.com
Subject: AM Modulation Question
To: info-hams@ucsd.edu

Scott Sminkey - Sustaining Eng Group (sas@opus.xyplex.COM) wrote:

:

: I was interested in trying to build a vestigial sideband rig for
: 75m AM while in college. My roommate Steve WA1QIX (now KA1SI) was
: an expert on everything about AM and explained that a vestigial
: sideband signal (carrier plus one sideband with the other sideband
: not completely eliminated but way down) cannot be generated in the
: final amp (well, not very easily anyway...). He explained that a

: I guess that scheme isn't used anymore. I know that broadcast video
: signals are vestigial sideband. Does anyone know what form of
: amplification is used today in that application?

:
: 73 de Scott W01G

I am fairly certain that all TV broadcast transmitters, even UHF, do exactly what you said can't be done (easily): they have cavity filters at the output frequency between the final amplifier and the antenna. They not only shape the signal into vestigial sideband but also act as a diplexer between the video and audio transmitters. Hence they are called "filter-plexers". This is according to a friend who worked at a UHF TV station 25 years ago.

Of course, TV transmitters are fixed frequency and ham rigs are not (well, maybe in the case of 75M AM, they are essentially fixed frequency :-) :-) so the TV technique isn't too helpful to you.

Rick N6RK
rkarlqu@scd.hp.com

Date: 29 Apr 93 00:06:21 GMT
From: usc!howland.reston.ans.net!newsserver.jvnc.net!netnews.upenn.edu!
mipg.upenn.edu!yee@network.UCSD.EDU
Subject: Current handling capacity and Jones connectors...
To: info-hams@ucsd.edu

I was looking over the schematics for my Yaesu FT101B and was working out how the DC power cable was hooked up. The transmitter is rated at using 20 amps DC. Jones connectors are only rated to 10 amps. While the current draw of 20 amps is only sporadic (it only draws 0.5 amps in receive), I am concerned about this. I have absolutely no intention of changing this plug since I don't want to mess with that which is not broken; I mention this because of my plans for my shack.

I am interested in standardizing all my 12V equipment to a single plug. I am considering using a 2 pin Jones connector for this purpose. Can I expect problems drawing up to 20 amps on it? Is it's current rating sufficiently conservative to do this?

Perhaps it is a mistake to standardize on a 2 pin Jones. Would a 4 pin Jones (where I use 2 pins for positive and 2 for negative) be better? Are there more appropriate connectors to use?

--
411 Blockley Hall | Conway Yee, N2JWQ
418 Service Drive | yee@ming.mipg.upenn.edu (preferred)
Philadelphia, PA 19104 | cy5@cunixa.cc.columbia.edu (forwarded to above)
(215) 662-6780 |

Date: 28 Apr 93 16:32:20 CDT
From: mvb.saic.com!unogate!news.service.uci.edu!usc!cs.utexas.edu!uwm.edu!linac!
uchinews!raistlin!timbuk.cray.com!hemlock.cray.com!cherry10!
dadams@network.UCSD.EDU
Subject: Differential equations and power.
To: info-hams@ucsd.edu

I have been reading through the licence manuals and...

Durring the disscussion of how current leads voltage in an inductor by a phase angle of 90deg, It is apparent that there are a few differential equations lying just below the surface here, that might help explain the subject to a mathophile like my self. Have any of you ever seen the subject presented that way? Does it lead to a mathimatical explanation of how phase angles are calculated?

How are the equations usually stated?

"Energy is stored in the magnetic field of an inductor when current increases through it..."

Energy = $K * I'$?

What symbol is used for energy? Does the constant K relate to the inductance? What other factors would it relate to?

"... and in the electric field of a capacitor when voltage across it increases..."

Energy = $K2 * E'$

Intuition tells me that K2 must relate to the characteristics of the capacitor.

Can someone help me continue these to the point where the solutions to the differential equations are the observed current and voltage etc?

I think I could do this myself, but I think I have forgotten to much of the physics and I am getting myself confused. :-{.

--David C. Adams Statistician Cray Research Inc. dadams@cray.com

They moved all the streets around while you were sleeping last night.

Date: 28 Apr 93 20:53:56
From: dog.ee.lbl.gov!pasteur!agate!headwall.Stanford.EDU!nntp.Stanford.EDU!
36.21.0.147!bencze@network.UCSD.EDU
Subject: Differential equations and power.
To: info-hams@ucsd.edu

>> On 28 Apr 93 16:32:20 CDT, dadams@cray.com (David Adams) said:
> Nntp-Posting-Host: cherry10

> I have been reading through the licence manuals and...

> Durring the disscussion of how current leads voltage in an inductor
> by a phase angle of 90deg, It is apparent that there are a few
> differential equations lying just below the surface here, that might
> help explain the subject to a mathophile like my self. Have any of
> you ever seen the subject presented that way? Does it lead to
> a mathimatical explanation of how phase angles are calculated?

As an EE, I prefer that the equations are stated that way! The basic relationships are:

$$i = C \, dv/dt \quad \text{and} \quad v = L \, di/dt \quad (\text{ref: physics/EE/ARRL Handbook})$$

These are the equations which model "ideal" capacitors and inductors. The current through a capacitor equals the time rate of change of voltage across the plates multiplied by its capacitance, C. For an inductor, the voltage drop across its terminals equals the time rate of change of current flowing through it multiplied by its inductance, L.

For the phase relationships, let $v = \sin(t)$ (no loss of generality here)

Capacitor:

$$i = C \, d/dt[\sin(t)] = \cos(t) \cdot C$$

if you plot $v=\sin(t)$ and $i=\cos(t)$ vs. t , you'll see that the positive current peak leads the positive voltage peak by 1/4 of a cycle; 90 degrees.

For the inductor, let $i = \sin(t)$;

$$v = L \, d/dt[\sin(t)] = \cos(t) \cdot L$$

Here, the voltage peak is 90 degrees in front of the current peak.

Therefore, in a capacitor, current leads voltage, while in an inductor, voltage leads current.

The energy equations for an inductor and capacitor:

$$U = (1/2) * C * v^2 \quad \text{and} \quad U = (1/2) * L * i^2$$

Can be derived from these fundamental relationships (and a few others), but do not tell much about the voltage/current phase relationships.

I hope this helps!

-Bill, KD6TOB

--

Bill Bencze

bencze@isl.stanford.edu

Date: Wed, 28 Apr 1993 14:20:25 GMT
From: valinor.mythical.com!n5ial!jim@uunet.uu.net
Subject: no-code defense
To: info-hams@ucsd.edu

In article <1993Apr27.185354.4329@nntpd2.cxo.dec.com>
little@nuts2u.enet.dec.com (nuts2u::little) writes:

>You can actually meet some nice hams in the CW portions of the bands. :-)

particularly if you happen to be in the 30m band. I haven't been down there for years (due primarily to the lack of space for a 30m dipole in the high-rise I used to exist in, as well as at the apartment I live in now), but when I lived in a duplex several years ago, I used to live on the 30m band. most of the folks (ok, all but one or two) I worked on 30m easily fit into the category of the best hams I've worked, both in terms of operating skill and the type of person they seemed to be.

you have to be at least a general to get on 30m, but if/when you do, you'll enjoy it. also, don't get scared away by the high speeds most folks run there...when I was just starting out there, everyone I worked was more than ready to slow down for me. before long, I was chatting with them at close to 30 wpm (never quite made 30 wpm...got stuck at around 28 wpm).

now, I enjoy running into the same class of folks in the AMTOR/PacTOR sub-band on 20m (which is all I have an antenna for right now).

--jim

PS: from what I'm told, the other WARC bands are just as good as 30m is.

don't know why that's the case, but hey, I'm not complaining. :-)

--

#include <std_disclaimer.h>

73 DE N5IAL (/4)

INTERNET: jim@n5ial.mythical.com | j.graham@ieee.org ICBM: 30.23N 86.32W

AMATEUR RADIO: n5ial@w4zbb (Ft. Walton Beach, FL) AMTOR SELCAL: NIAL

E-mail me for information about KAMterm (host mode for Kantronics TNCs).

Date: Thu, 29 Apr 1993 06:24:24 GMT

From: dog.ee.lbl.gov!overload.lbl.gov!agate!news.ucdavis.edu!othello.ucdavis.edu!
ez006683@network.UCSD.EDU

Subject: no-code defense

To: info-hams@ucsd.edu

system@garlic.sbs.com (Anthony S. Pelliccio) writes:

: little@nuts2u.enet.dec.com (nuts2u::little) writes:

:

: Guess again.....

:

: >>FOAD de KD1NR

:

: Woops... forgot:

:

: --- .- ... -... . -.------ .- .- .- .- .- .

:

: > Yup, demonstrated knowledge of morse code certainly improves ones

: > communication skills and operating practices. Thanks for proving my point.

:

: 'nuff said already.

:

: But... you must have passed at least 1A to get on CW on any portions of
: the HF bands. Simple as that. I will say one thing, I enjoy the bottom
: 25 kc's of the bands because it's not as congested. If we start fucking
: with the code requirements, it's gonna be a free-for-all down there and
: that's not something I want, having worked to gain an Extra class
: ticket.

Yes but you can work CW morese code on HF and up! don't bother replying.

:

: And btw, if you happen to be a no-code and are offended by my
: attitude... well there are two words for you....

:

: --- .- ... -... . -.-- .- .

:

: > 73,

```

: > Todd
: > N9MWB
:
: Nah... FOAD again dude.
:
: > PS To the non-clueless, forgive the post here, but my news reader won't
: > let me follow up to another group, sigh.
:
: Hah... too bad.
:
: Tony

```

```

: -----
: -- Anthony S. Pelliccio, kd1nr/ae // Yes, you read it right, the //
: -- system @ garlic.sbs.com // man who went from No-Code //
: -----// (Thhhppptt!) to Extra in //
: -- Flame Retardent Sysadmin // exactly one year! //
: -----
: -- This is a calm .sig! --
: -----
:

```

best arguement for a good kill file I've seen in a long time. Guess its time to just start ignoring this one. I realize there is an arguement to be made on both sides of the issue and in no way hold this idiots remarks against anyone else who happens to hold an extra class license

Dan

```

--
*-----*
* Daniel D. Todd      Packet: KC6UUD@WA6RDH.#nocal.ca.usa      *
*                      Internet: DDTODD@ucdavis.edu            *
*                      Snail Mail: 1750 Hanover #102            *
*                      Davis CA 95616                          *
*-----*
*      I do not speak for the University of California....    *
*      and it sure as hell doesn't speak for me!!            *
*-----*

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Date: Wed, 28 Apr 1993 16:22:49 GMT
From: usc!cs.utexas.edu!zaphod.mps.ohio-state.edu!sdd.hp.com!hpscit.sc.hp.com!
hp!extra!hpfcso!keith@network.UCSD.EDU
Subject: PC CW software
To: info-hams@ucsd.edu

```

In rec.radio.amateur.misc, ee_hflo@uxmail.ust.hk (Michael Lo) writes:

> I have many CW softwares. All of them can send out morse code.
>
> Are there any program can receive CW? It may require some interface with
> my morse key and computer.
>
There is ROBOCOPY.ZIP which is available at several ftp sites that have a "ham
radio" directory. There is a .doc file in the uncompressed filesset which gives
a reference to an article in "73" magazine (I think it was Oct 1990, or was
that 91?)

John Keith

Date: 28 Apr 93 18:36:48 EST
From: titan.ksc.nasa.gov!k4dii.ksc.nasa.gov!user@ames.arpa
Subject: TS-50 Accessories
To: info-hams@ucsd.edu

In article <1rk97j\$qp@gdls.gdls.com>, turini@gdls.com (Bill Turini) wrote:
> I called a Ham radio store (name escapes me) to check on the availability of
> accessories for the TS-50 and what you actually needed to operate the gear.
> I was told that the CW xtal filters weren't in the country yet, nor was the
> txco or the antenna tuner.
> Can anyone confirm or deny this? Am I being fed a bunch of ?

Bill-

How recently did you make the call? I've had the AT-50, CW filter and SO-2
TCXO, for over four weeks now. It's true that the AT-50 and CW filter
weren't available when the TS-50 first came out, but the SO-2 TCXO is the
same one used in the TS-450, and has been available for quite a while. I
purchased mine from Amateur Electronic Supply. Although they don't have
the best prices, their Orlando store is located within 45 miles of my home.

If you're using the TS-50 mobile, the CW filter may be of little use. I
prefer to tune in a CW station in wide mode, and only switch to narrow mode
when it is tuned close to frequency. It requires use of the TS-50's setup
menu to make the change, so it isn't very convenient while in motion. I
haven't determined whether or not it can be installed on a microphone
function button. However, the setup menu comes installed on button number
one, from the factory.

I operate my TS-50 in the car. Temperature can rise quite high in a parked
car in the Florida sun. I operate a lot on ten meters, where the standard
10 ppm oscillator could easily vary 300 Hz over such a wide temperature
range. It has been nice having the SO-2 TCXO, who's 0.5 ppm oscillator
shouldn't vary more than 15 Hz on ten meters. So far, I haven't observed

any more variation than that. On the other hand, the TCX0 may be a waste of money for installation in an air-conditioned environment.

73, Fred, K4DII

fred-mckenzie@ksc.nasa.gov

Date: Wed, 28 Apr 1993 14:25:07 GMT
From: valinor.mythical.com!n5ial!jim@uunet.uu.net
To: info-hams@ucsd.edu

References <20APR93.19314607@nauvax.ucc.nau.edu>,
<1993Apr24.110011.23106@anomaly.sbs.com>, <RUSTY.93Apr26122952@aurora.btg.com>
Subject : Re: no-code defense

In article <RUSTY.93Apr26122952@aurora.btg.com> rusty@aurora.btg.com
(Rusty Haddock) writes:

>[I wrote]:
> I thought the no-code technician license was getting a 1x3 call
> [....]
> doesn't a 2x3 call mean that you started out as a novice?

>Suggest you get a copy of "QST" -- there the ARRL
>prints a chart showing the callsigns handed out by the FCC for each region
>and class level at the beginning of the month.

oh, I get {QST}. I just don't follow the list of recently-issued callsigns,
as I've never really been terribly interested by it (I'm not looking at
upgrading to advanced or extra anytime soon, so I've got no real reason to
keep track of calls issued lately).

anyways, thanks for the info, everyone. now I know how it works. :-)
--jim

--

#include <std_disclaimer.h>

73 DE N5IAL (/4)

INTERNET: jim@n5ial.mythical.com | j.graham@ieee.org ICBM: 30.23N 86.32W
AMATEUR RADIO: n5ial@w4zbb (Ft. Walton Beach, FL) AMTOR SELCAL: NIAL

E-mail me for information about KAMterm (host mode for Kantronics TNCs).

End of Info-Hams Digest V93 #515
